

AD-A161 714

DEVELOPING A MANAGEMENT INFORMATION SYSTEM FOR THE
CHIEF OF SUPPLY(U) AIR FORCE INST OF TECH
WRIGHT-PATTERSON AFB OH SCHOOL OF SYSTEMS AND LOGISTICS

1/1

UNCLASSIFIED

J K STEVENS SEP 85 AFIT/GLM/LSM/855-74

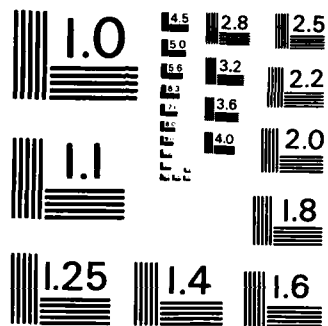
F/G 5/1

NL

END

FILMED

DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AD-A161 714



DEVELOPING A MANAGEMENT INFORMATION
SYSTEM FOR THE CHIEF OF SUPPLY
THESIS

James K. Stevens, Jr.
Major, USAF

AFIT/GLM/LSM/85S-74

DTIC FILE COPY

DTIC
ELECTE
NOV 27 1985

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY

AIR FORCE INSTITUTE OF TECHNOLOGY

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

Wright-Patterson Air Force Base, Ohio

85 11 25 008

AFIT/GLM/LSM/85

DEVELOPING A MANAGEMENT INFORMATION
SYSTEM FOR THE CHIEF OF SUPPLY
THESIS

James K. Stevens, Jr.
Major, USAF

AFIT/GLM/LSM/85S-74

DTIC
ELECTE
NOV 27 1985
S D

Approved for public release; distribution unlimited

The contents of the document are technically accurate, and no sensitive items, detrimental ideas, or deleterious information are contained therein. Furthermore, the views expressed in the document are those of the author(s) and do not necessarily reflect the views of the School of Systems and Logistics, the Air University, the United States Air Force, or the Department of Defense.



Accession For		
NTIS	CRA&I	<input checked="" type="checkbox"/>
DTIC	TAB	<input type="checkbox"/>
Unannounced		<input type="checkbox"/>
J. Publication		
By		
Distribution		
Availability Codes		
Dist	Avail and/or Special	
A-1		

AFIT/GLM/LSM/85S-74

DEVELOPING A MANAGEMENT INFORMATION SYSTEM FOR THE
CHIEF OF SUPPLY

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

James K. Stevens, Jr., B.S.

Major, USAF

September 1985

Approved for public release; distribution unlimited

Preface

The purpose of this study was to identify the general information needs of the Chief of Supply to aid in the development of a Management Information System for his use. Because I had no preconceived ideas of the information needs of the supply community, I selected this topic to provide a look at information needs as seen by someone from outside the supply system. As it turned out, the knowledge I gained from this report will be of equal value to me as I prepare for duties in an active supply account.

I could not have completed this research nor written this thesis without the assistance of many individuals. I want to take this opportunity to thank all the Chiefs of Supply who gave so much of their valuable time to help me complete this project. Also, I am deeply indebted to my faculty advisor, Mr. Patrick Bresnahan and committee member, Mr. Charles Youther. Without their guidance and patience, I would never have been able to complete this thesis project. Finally, I wish to thank my wife Debbie and my sons Michael and Patrick for their understanding and concern during my many hours of work on this project.

James K. Stevens, Jr.

Table of Contents

	Page
Preface	ii
Abstract	v
I. Introduction	1
Definitions	1
General Issue	2
Background	3
Specific Problem	7
Research Objectives	8
Research Questions	9
II. Methodology	10
Introduction	10
Research Design	10
Sample Selection	12
Data Collection Method	13
Data Analysis	15
III. Findings	17
Introduction	17
Description of the Survey	17
Recording the Responses	24
Data Reduction	26
Analysis of Findings in Terms of the Research Questions	27
IV. Summary and Recommendations	32
Summary	32
Recommendations	34
Conclusion	35
Appendix A: Survey Instrument	37
Appendix B: Survey Responses	52
Appendix C: Significant Information Items	57

	Page
Appendix D: Additional Information Items	
Desired	60
Bibliography	62
Vita	64

Abstract

This study examined the information needs of the Chief of Supply in order to facilitate the development of a Management Information System (MIS) designed to meet his decision needs. It focused on the general information items needed to assist in the effective and efficient operation of a supply account. To accomplish this, thirty structured telephone interviews were conducted to collect opinions on a proposed MIS developed by the author.

The interview results identified sixty-nine information items which the respondents indicated as valuable. Of these, forty-seven were found to be immediately available in the Standard Base Supply System (SBSS) program as it exists on the Phase IV Sperry 1100 series computer system. With a majority of the information items found to be available within the SBSS program, it was determined feasible to continue the development of this Management Information System.

The results of this study led to two recommendations. The first was to immediately implement a Management

Information System for the Chief of Supply based on the information contained in this report. The second was to use this study as the basis for further research to develop a MIS where the structure could be tailored to meet the individual needs of each Chief of Supply.

DEVELOPING A MANAGEMENT INFORMATION SYSTEM FOR THE CHIEF OF SUPPLY

I. Introduction

The US Air Force supply system is designed to support the needs of various customers by providing material resources on a timely basis to satisfy mission requirements. The Chief of Supply is the one person responsible for the effective and efficient operation of the supply system at a given base. Since the mid-1960's the supply system has had the aid of computers to assist in accomplishing its mission. These labor saving devices have proven a great aid to the supply system, but now is the time to look toward the future and the use of computer tools for purposes other than electronic bookkeeping. Paper and punch card products were adequate for the 1960's, but they no longer meet the needs of Base Supply in the 1980's (9).

Definitions

To allow for a common basis of discussion in the following, it is necessary to have a clear understanding of certain terms. These terms are data, information, information requirements, management information system(s),

and the Phase IV Computer System.

Data are unstructured facts that have been acquired from direct observations, experimentation, or historical review (10:1).

Information is considered data that have been retrieved, processed, or otherwise used as a basis for decision making (13:9).

Information Requirements are those specific items of information that are needed by a manager to reach an objective (13:236).

A Management Information System (MIS) is a computer based system designed to accumulate, process, store, and transmit data to managers in order to aid in decision making (11:11).

The Phase IV Computer System is new computer hardware purchased to replace the supply UNIVAC 1050-II computer system as well as the Burroughs 3500, 3700, and 4500 series computer systems at each USAF base.

General Issue

The USAF supply system is currently going through a transition to the Phase IV Computer System. Even before the Phase IV System is in full operation, USAF Project Harvest Resource (an Air Staff program to improve Air Force material

management) has directed that a more "user friendly" data system be developed. With increased user access to the supply system, supply account managers will be faced with more real time problems generated by customers. In order to make real time decisions, the Chief of Supply (COS) must be able to have immediate access to information in his supply account. Currently the COS depends on a number of management reports to meet his information requirements. These reports rarely have the needed information in one central location, but rather provide pages of computer generated data. These pages must be manually manipulated by supply people to extract the needed information (12:1-2). This seems to be a labor intensive operation in this day of advanced electronic equipment designed to accomplish the same tasks.

Background

With the advent of the Phase IV Computer System, a base-wide data base will become available. This data base could be beneficial to the COS if the capability to have immediate access to the information available existed. One possible means of access is through a management information system. Since such a system is non-existent, there is a need for research to determine the feasibility of such a system. This is the basis for this research project.

Many researchers have developed management information

systems for a wide variety of purposes and organizations. A review of their works revealed several basic ideas that appear to be common to the development of any MIS. James O'Brien stated in his book Management Information Systems: Concepts, Techniques and Applications that a MIS should be orientated toward the information needs of management (11:61). Gorry and Scott-Morton stated in their article A Framework for Management Information Systems they also believed information systems should exist only to support the decisions needs of an organization's managers. They further stated that understanding the types of decisions the managers make is a prerequisite for effective MIS design and implementation (6:56).

Robert Anthony, in his book Planning and Control Systems: A Framework for Analysis, developed a framework to identify types of decisions that are made in an organization. He divided decisions into three groups; strategic planning, management control and operational control. Anthony's definition of each group is as follows:

Strategic planning is the process of deciding on objectives of the organization, on changes in these objectives, on the resources used to attain these objectives, and on the policies that are to govern the acquisition, use, and disposition of these resources.

Management control is the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives.

Operational control is the process of assuring that specific tasks are carried out effectively and efficiently (1:16-18).

The information requirements of each of these decision types are quite different. Strategic planning requires very broad categories of information, with no high degree of accuracy, to make decisions that occur on an infrequent basis. Operational control must have very detailed and quite accurate information to support decisions that occur very frequently. The requirements of management control are somewhere between these extremes (5:21-22).

With the information requirements of the three decision types in mind, it is necessary to investigate how this information relates to managerial decisions. Gorry and Scott-Morton divided these decisions into two categories, structured and unstructured decisions. Structured decisions are routine in nature and have some type of decision rule that will allow the manager to design alternative solutions and select the best solution. Unstructured decisions have no specific decision rule outlined and the decision maker must rely on whatever problem solving techniques he has acquired by his experience as a manager (6:60).

Gerhard stated in his thesis titled Requirements Analysis for Effective Management Information System Design: A Framework and Case Study that most MIS have been developed to support the structured operational control areas;

however, managers are required to deal primarily with unstructured decisions. He asserts that an integrated MIS should be developed to support all levels of management activity by addressing unstructured as well as structured decision making needs (5:26-27).

With these basic ideas in mind, the developmental process of a MIS must be determined. Wreksomindojo, in his thesis titled An Approach to the Design of a Management Information System: Development Procedure for the Indonesian Defense Logistics Staff, reviewed four different authors' ideas of identifying the stages in the development of a MIS. His research indicated that each of the authors described a development process that followed the input-process-output approach, however, each author used different criteria for which portion should receive the most emphasis (14:22).

Further research revealed that Joel Ross, in his book Modern Management and Information Systems, developed his process from the point of view of the manager-user and not the computer specialist. His methodology is not specifically concerned with the processing of data, but with the inputs and outputs to achieve a system objective (13:232-233). It appears he has successfully determined a means to put into practice the ideas presented by both O'Brien and Gorry and Scott-Morton.

Ross described a seven-step process that falls along a

continuum. These steps overlap and are recycled in an iterative manner. Designers must be willing to modify and re-examine previous steps as a result of what is learned in subsequent ones. The steps are: (13:231)

1. Set the system objectives
2. Establish system constraints
3. Determine information needs
4. Determine information sources
5. Detail the system concept
6. Test and implement
7. Evaluate

Specific Problem

The information presented above outlines what must be done to develop a viable MIS. For the COS to have an effective MIS, the system must support the types of decisions that the COS makes. Rhodey, in her report titled An Improved Management Information System for Chiefs of Supply, based the development of a MIS on 78 subjectively selected "supply test variables" generated by interviewing Air Force management familiar with the Standard Base Supply System (12:E-ii). The term Air Force management was vague and not construed to mean Chiefs of Supply by this author. Also, in the opinion of Maj Douglas J. Blazer, Chief of Supply Operations at the Air Force Logistics Management Center (AFLMC) and the individual ultimately responsible for

the development of a MIS for the COS, this resulted in a rather subjective report that had questionable validity (3). This report, however, did provide a basis for further research. In addition, the entire supply career field was surveyed by the USAF Occupational Measurements Center to determine, among other things, the specific tasks accomplished by commissioned officers in this career field. This survey provided a basis for determining what information the COS needs. With both a proposed design and the survey information available, a need exists to combine the two in order to enhance the development of a MIS for the COS.

Research Objectives

Since there is currently no automated MIS available to the USAF supply system, steps must be taken to investigate the information items necessary to develop such a system. It was the objective of this research to determine what types of information the COS needs to effectively operate a supply account. Using the information needs of the COS as a basis, a determination of the availability of this information in the Phase IV system would be examined. This should provide future researchers the basic information necessary to aid them in developing the software needed, examining the methods of display and providing a working MIS for the COS.

Research Questions

Based on the objectives presented above, three research questions were developed to guide the research effort.

These questions were:

1. What information does the Chief of Supply need to operate the supply system effectively?
2. Of the information needs determined in answering question one, how much is available in the Phase IV System?
3. Is it feasible to proceed with the development of a MIS for the COS?

II. Methodology

Introduction

This chapter presents the plan for conducting the research effort to answer the research questions presented in Chapter I. In order to maintain strict scientific discipline, this methodology was developed prior to any data being collected. In order to accomplish the objectives of this research effort, several factors were considered. First, a research design was developed. This was followed by describing the population and determining a sample selection method. Then the data collection method was devised using a telephone interview format based upon a questionnaire mailed to each possible respondent prior to the interview. Next, the data analysis method and feasibility decision rule were determined. Finally, the data were collected, analyzed and the decision rules applied in order to answer the research questions.

Research Design

Based on information found during research of the literature, it was determined the most desirable methodology was one which included the manager-user in the MIS development process. This would allow these individuals to

aid in the design of a system to support their decision needs. It was apparent the options for gathering this information had to be examined in order to determine the most feasible approach.

The first option that appeared viable was to census the population of all COS as to what particular items of information they need. This was determined to have two significant limitations. First, the population is hard to define. Members of the population change at irregular intervals because of US Air Force personnel policies and determining who will become a COS would be subjective, at best. Second, personally contacting each individual COS would consume a great deal of time and incur a considerable monetary cost to the US Government.

The second option was to survey a sample of the population of all COS to learn what they believe their information needs are. Sampling is limited by the premise that there is enough similarity among the elements in the population in order for a few of these elements to adequately represent the characteristics of the entire population (4:147).

Of the two options presented, sampling was selected as the most practical method. Since the duties of the COS are basically the same regardless of location, a sample of the population should provide an accurate estimate of the

information needs of the population. Also, a sample would significantly decrease the amount of data to be reduced in order to answer the research questions established in Chapter I with no loss in validity.

Of the survey methods available, a telephone interview survey was determined to be most appropriate. This technique has the flexibility of personal interviews at a lower cost, and also generally provides higher response rates than mail surveys (4:306). Babbie, in his book Survey Research Methods, also stated interview surveys typically attain higher response rates than mail surveys. He asserted that a properly designed survey should achieve at least an 80 to 85 percent completion rate. Another advantage, pointed out by Babbie, was an interview could provide a guard against confusing questionnaire items. If the respondent clearly misunderstands the intent of a particular question, the interviewer could clarify matters. The major advantage of the interview survey, in this author's opinion, was the interviewer's ability to probe for answers when the respondent indicates that he "doesn't know" which response to select (2:171-172).

Sample Selection

The population for this research effort was all the Chiefs of Supply in the US Air Force. Information provided by the USAF Manpower and Personnel Center (AFMPC) indicated

there were 111 Chiefs of Supply, as of March 1985 (8). Since it was impractical to contact each one individually, some means of sample selection had to be determined. At this point in the research, the best method available was thought to be simply requesting a list of all COS from AFMPC. With a list of all the names available, possible respondents would be randomly selected until a survey of at least thirty was completed. Factors such as time zone differences, limited telephone communications to remote areas and personal factors, such as leave and temporary assignment, were considered in the sample selection. If a selected COS was not available for any of these reasons, that name would be discarded and another name randomly selected for interview. Any bias which may be present because of this selection rule would not be considered significant.

Data Collection Method

The survey instrument had to be developed with questions which addressed research question one. The survey questions were to be based on previous research [see Rhodery (12) and Greer and Moon (7)] plus data provided by the USAF Occupational Measurement Center (AFOMC). Using these items as a key to what the COS needs to know, a hypothesized MIS design would be described and respondents asked to agree or disagree with the importance of these factors. In order to

insure no important areas were omitted and to allow the individual COS to add any additional areas he felt should be included, both closed and open-ended questions would be used to gather information on the effectiveness of the proposed MIS. The internal validity of the questions would be determined using expert opinions of faculty members with extensive supply experience at the Air Force Institute of Technology. Any changes suggested by these experts would be made and the internal validity would then be further tested by conducting trial interviews with former Chiefs of Supply and continuing education students with Chief of Supply experience, who are available to the author at Wright-Patterson AFB, Ohio.

With the survey instrument in final form and the specific respondents determined, a copy of the questionnaire, along with a letter of introduction and specific instructions, would be forwarded to each respondent via the US Postal Service. Approximately seven days after mailing the questionnaires, the respondents would be contacted to determine if they had any questions concerning the survey. If there were no questions the interview would be conducted at that time.

In order to attain the desired results from the survey, Babbie stated the interviewer must "be a neutral medium through which questions and answers are transmitted" (2:172). Babbie also provided a few general guidelines that

apply to any interview situation. First, the interviewer must present an appropriate demeanor in order to make the interview an enjoyable experience for the respondent. Babbie also felt in order for the interview to be conducted in a professional manner, the interviewer must be familiar with the questionnaire, follow the question wording exactly, record responses exactly and be able to probe for responses when necessary. Babbie asserted that interviewer training would be absolutely essential to accomplish these desired objectives (2:173-176). With these objectives in mind, interviewer training would be accomplished concurrently with the internal validation of the survey instrument.

After the completion of all the interviews, the responses would be combined by question. Because the bulk of the data would be received in a qualitative form from experienced, knowledgeable individuals, classical quantitative and statistical manipulation would not be possible. The best method of analysis that could be expected would be to determine the frequency of the responses to each question. If the frequency indicated the item is considered important to the majority of the respondents, that item would be considered a candidate for inclusion in the MIS.

Data Analysis

With the candidates for inclusion determined from the

telephone survey, the second research question would be addressed. Each candidate for inclusion in the MIS would be compared to data maintained in the Phase IV Computer System. This would require close coordination with the USAF Data Systems Design Center (AFDSDC) to determine exactly what data are stored in the Phase IV Computer System. The Office of Primary Responsibility for the Phase IV System at the AFDSDC would be contacted and a request for this information would be made. This was the area determined key to the completion of this research project. Areas indicated important by the respondents, which had no data available in the Phase IV System, would be noted and recommended for inclusion in the future.

In order to address research question three, a decision rule had to be developed. It was decided if more than fifty percent of the supply related factors were available in the Phase IV System, continuing the development of the MIS would be considered feasible. In the author's opinion, the availability of at least fifty percent of the related factors would enhance the rapid development of an interim MIS and justify continuing the development effort.

III. Findings

Introduction

This chapter presents the results of the efforts undertaken to answer the research questions established in Chapter I. The discussion will begin with an explanation of the development of the survey instrument used to gather the data. This is followed by a discussion of how the responses were recorded using the telephone interview process. Next, an explanation of the data reduction process and the computer based statistical package used will be presented. Finally, the results of the data reduction will be applied to answer the research questions.

Description of the Survey

In order to develop the hypothesized MIS discussed in Chapter II, several steps were taken. The first step was to limit the scope of the survey to those items which are directly concerned with the business aspects of a supply account. Items such as manpower requirements, disciplinary actions, vehicle status and control rosters were not included for this reason, even though these are important to the overall operation of a supply account.

With this restriction in effect, the next step was to

develop a list of proposed information items to be included in the hypothesized MIS design. In order to accomplish this, a sequence was followed which consisted of consulting several sources. First, a draft list of items was developed using the management indicators discussed by Green and Moon in their thesis Analysis and Use of Air Force Base Level Supply Management Indicators (7) and data provided by the USAF Occupational Measurement Center. With this information in hand, several visits were then made to the base supply unit at Wright-Patterson AFB. During these visits, the operation of the account was observed by accompanying the COS through his daily business. This "shadow program" allowed the author to gather data on the information items used by this one COS in the daily operation of his account. During this period, the author attended meetings with base maintenance organizations, supply account "How Goes It" meetings and daily supply account staff and special purpose meetings. Also, a Logistics Squadron Staff meeting was attended to observe which indicators the Logistics Squadron Commander used to evaluate the performance of the supply unit. The draft list was then expanded to include other information items based on the data gathered from these visits.

This expanded list of information items was then discussed with Mr. Patrick Bresnahan and Mr. Charles Yother, faculty members of the Air Force Institute of

Technology Department of Logistics Management. During these discussions, each item was examined to validate its form and content for inclusion in the survey. This resulted in the list taking a final form with sixteen major areas of information needs indicated for inclusion in the survey instrument. These areas were:

1. Delinquent items due in from maintenance (DIFM)
2. Repairable assests awaiting parts (AWP)
3. Items not repairable this station (NRTS)
4. Average repair days
5. Funds availability
6. Delinquent documents
7. Mission capable (MICAP) indicators
8. Priority support
9. Warehouse refusals
10. Items past due inventory
11. Late deliveries
12. Bench stock
13. Retail sales indicators
14. War reserve materials (WRM)
15. Fuels
16. Effectiveness indicators

With the desired areas of information determined, the next step was to use each of these sixteen areas as a basis for a group of individual information items. Each group began by presenting the individual item of information in a

very general nature. For example, average repair days was used as a very general statement. As the respondent continued down the list the information would become more specific. To continue with the example, average repair days was then presented in terms of Air Force Critical Items, Command Intensive Management Items and Non-Critical Items. The next level of the survey would be to present the information item in terms of the major organization responsible for the item in question. In the case of average repair days, this was represented by organizations such as a Field Maintenance Squadron or an Avionics Maintenance Squadron. The final level of information in each group would contain very specific information concerning each unit the supply account served. Continuing with the average repair days example, this level included the average number of days each individual shop required to repair the assests for which it was responsible.

To assist in the analysis of the responses, a five category Likert scale was included with each individual information item. This would allow the respondents to rate the individual information item based upon their opinion of the need for the information. The categories of the Likert scale were numbered with "1" indicating the item being of no value to the respondent in his management of the supply account and "5" indicating the item being extremely valuable. This format would allow discrimination between

each individual item to determine its value, in the opinion of the respondents. This analysis would then indicate which individual information items and, subsequently, at what level of detail the items should be presented to the COS in a MIS.

Because the purpose of this research project was to determine what information the COS needs to manage his account, a provision had to be made to allow each respondent to indicate information requirements not contained in the survey. This was accomplished by including an open ended question referencing additional areas of information the respondent felt should be included in a MIS. Also, because of the author's lack of experience in the supply field, this would insure no important areas of supply information were omitted from the survey.

With the survey instrument in final form, a decision rule to determine those items of significance was needed. Since the data is ordinal in nature, the mode was selected as the best measure of central tendency. In order to discriminate between the various responses, any item with a mode greater than three would be considered significant. If the modal category of any individual item was three, the cumulative frequency of categories one and two was used to indicate significance. If forty percent or less of the responses were in these two categories, the item was considered significant. With at least sixty percent (or

more) of the respondents considering this particular item important (or greater) the item was considered a primary candidate for inclusion in the MIS.

To enhance its internal validity, the instrument was further tested by giving sample surveys to former Chiefs of Supply Colonel Chovine R. Davis, III, HQAFLC/MML; Lieutenant Colonel Ira E. King, HQAFLC/DSXS; and the Chief of Supply, Wright-Patterson AFB, Ohio, Major Joseph L. Reuwer, Jr. This process resulted in no changes to the instrument, indicating the instrument could be used as it existed. The complete survey package is contained in Appendix A.

In order to select possible respondents, an attempt was made to obtain a list of all Chiefs of Supply through the personnel system. In order to extract names from the personnel computer, the individuals must have some distinguishing characteristic. In most cases this would be a unique Air Force specialty code (AFSC) and/or special experience identifier (SEI). The COS does not have a unique AFSC nor an SEI. The only unique characteristic is some COS have an "A" prefix assigned to their AFSC, indicating they are squadron commanders. This selection criteria was determined unacceptable because there are COS who are not squadron commanders. This would result in a list which did not contain all those eligible for the survey, thus a random sample could not be obtained.

With the personnel computer no longer a viable option, another method of selecting the respondents had to be determined. Additional research revealed a list of all the Computer Support Base supply accounts in AFM 67-1, Vol II, Part Two, Chapter 2. Based on the fact that each of these accounts has a COS, this list was used to select the possible respondents. With an anticipated response rate exceeding 85%, thirty-four was determined to be the number of introduction packages necessary in order to attain the goal of thirty respondents established in Chapter II.

When selecting a sample from a population, sometimes methods other than random selection are appropriate. In this case, it was desirable to select a sample that was truly representative of the population in order to extrapolate beyond the data collected. In an attempt to make the sample as representative as possible, a random selection was made based upon the number of accounts in each Major Command (MAJCOM). To accomplish this, each of the Computer Support Base supply accounts was listed by MAJCOM. To insure the accounts not assigned to a specific MAJCOM (US Air Force Academy, for example) were included in the survey, a MAJCOM titled "other" was generated. Each MAJCOM was then given a percentage of the thirty-four surveys mailed based upon that MAJCOM's percentage of the total number of Computer Support Base supply accounts listed. The individual accounts were then selected at random from each

MAJCOM list. Addresses for each of the selected accounts were obtained from HQAFLC/MML (Material Management) and the pre-survey introduction packages were mailed.

Recording the Responses

Approximately fourteen days after the introduction packages were mailed, the process of collecting the responses was started. Each individual Chief of Supply was contacted by telephone in order to determine if they had any questions concerning the survey. If they had no questions, the interview was completed. If the respondents had any questions or areas of confusion, these were discussed and a date for completion of the interview was selected. The overall process worked quite well, however there were difficulties encountered in establishing contact with some of the respondents.

Because the respondents were stationed in all parts of the world, care had to be taken in order to insure the proper local time for contacting each respondent. The first attempted contact was made at the beginning of the duty day, approximately 0800 hours local time at the respondent's location. To avoid confusion and insure this objective was met, the location of each respondent was divided into a group based on the time difference between each location and eastern daylight time. For example, west coast bases were listed in a group titled "local -3". This would allow the

most efficient use of the time spent contacting each respondent by allowing a daily sequence of calls to be established.

With the time zone problem solved, the next difficulty was in actually completing the interview with the COS. These individuals were all quite busy and finding time in their schedule to complete the interview resulted in some long days. This problem was also compounded by the telephone service. All the interviews were completed using the automatic voice network (AUTOVON). It was quite frustrating to spend several extra hours waiting for the appointed time to conduct an interview, only to be cut off with the interview only partially completed because of low AUTOVON priority. Because of this communication problem, the survey period was extended one week. The key to these difficulties was good time management and a sincere desire to obtain thirty responses.

Of the thirty-four introduction packages mailed, two were never received by the individual COS and two respondents were unable to complete the survey due to exercises and extensive work loads. Discounting the two surveys not received, the response rate for this research project was 93.75%. This is much higher than anticipated and is attributable, in the author's opinion, to willingness of the respondents to assist in this effort.

Data Reduction

With all the responses collected, the data had to be processed in order to be evaluated against the decision criteria established previously. To accomplish this, all the responses were entered into a computer data file and processed through the Statistical Package for the Social Sciences (SPSS). SPSS was chosen because of its ability to handle the large number of variables generated by the survey along with its ability to provide the statistical data necessary to perform the analysis. To process the data, each individual information item was assigned to a variable within the SPSS program and each respondent considered one case for each of the variables. The data was then run against the frequencies program of SPSS to determine the modal category for each variable along with the absolute, relative percentage, adjusted percentage and cumulative adjusted percentage frequencies for each of the five categories assigned to each variable. This allowed the significant items to be identified by applying the decision rule, concerning significance described previously, to the result generated by the SPSS program. Of the 110 items listed on the survey instrument, 69 were identified as significant.

In addition to the information items included in the survey instrument, eleven COS indicated other areas they

felt should be included in a MIS. These were recorded during the individual interviews and maintained in a separate listing as information only. No statistical analyses were applied to these items; however, these were collected because they may be indicators of information needs not supported by the supply system.

The areas of additional information were quite varied. They ranged from basic supply functions such as receipt processing and delinquent documents to information concerning use of the computer to support operations and customer complaints. Most of the items appeared to be very specific in nature. One respondent even went so far as to request information on the amount of time each remote terminal was used for system inquiries. Appendix D contains a complete list of these additional information items.

Analysis of Findings in Terms of the Research Questions

With the data collected, recorded and reduced, the findings were then applied to the research questions.

Question 1: What Information Does the Chief of Supply Need to Operate the Supply System Effectively? The answer to question 1 was obtained directly from the survey instrument and data reduction method stated above. A listing of the sixty-nine items determined from the survey is contained in Appendix C.

Question 2: Of the Information Needs Determined in Answering Question One, How Much is Available in the Phase IV System? The answer to question 2 was somewhat more complex. Early in the research effort an attempt was made to determine exactly what information was available on the Phase IV computer system. A discussion with the people assigned to AFDSDC/LGSX, the office of primary responsibility for the Phase IV update project, indicated the Phase IV system was simply a new hardware package on which the current Standard Base Supply System (SBSS) program would run. Thus a more accurate wording for research question 2 would be: Of the information needs determined in question one, how much is available in the SBSS? In order to answer this question, the information items determined in question one above were compared with the descriptions of the various reports generated by the SBSS as outlined in AFM 67-1 Vol II part 2. The items in Appendix C marked by an asterisk (*) are those which were determined to be directly available within the SBSS program.

As the research continued on each item identified by the survey, the complexity of the SBSS became apparent. Many of the data necessary to determine the items identified in the survey are stored in the computer; however, these data must be extracted and manipulated in order to obtain the information items of concern. This would require the SBSS program to be modified or an extensive program developed for

an interfacing computer in order to obtain these information items. This would cause a substantial delay in the development of a MIS. In order to expedite the MIS development, any items requiring software modifications was cause for the item to be marked as not being available in the SBSS.

When the additional items identified by the respondents were examined, they appeared to cover a wide variety of subjects with only seven of thirty-one items being identified by more than one respondent. The exact reason for this wide range of subjects cannot be directly determined from this research; however, there are two possible reasons for this condition. The first may be these were the items the individual respondent was having problems with in his particular organizations. If these items were problem areas, any information that could help manage these areas would be of significant value to the COS. A second possible explanation would be these items are truly items the COS needs to track and should be included in the SBSS in future revisions.

Because of the wide variety of the responses and the limited number of respondents who indicated additional items desired in a MIS, the existence to these items within the SBSS program was not extensively researched. These items were included to provide insight into items which may need to be incorporated in future revisions of the MIS.

Question 3: Is it Feasible to Proceed with the Development of a MIS for the COS? With the information gathered from the answers to questions 1 and 2 above, the answer to question 3 was simply a matter of counting the items contained within the SBSS and comparing this to the total number of items determined to be significant. As indicated previously, 69 of the 110 items included in the survey were identified as being significant. Of these 69, forty-seven items were found to be directly available within the SBSS program. This represents 68.1 percent of the supply related factors being available in the Phase IV (SBSS) System. Because of the limited number of COS who responded to the additional areas and the large diversity of their responses, these items were not considered in the determination of feasibility. Consequently, based on the results attained from the structured interviews and the decision rule established in chapter II, continued development of a MIS for the COS is feasible.

After question 3 was answered and the survey instrument reexamined, the author was uncertain if this adequately answered the question of feasibility. The survey instrument was based on the items concerned with the business aspects of the US Air Force supply system. The SBSS program appears to be designed to support these same business aspects. Since a majority of the items contained in the survey are also contained in the SBSS program, there would be little

chance of results failing the decision criteria.

The basis of question 3 was the feasibility of the continued development of the MIS. It appears obvious to the author at this point, the simple existence of the information items within the SBSS is not the only criteria for the development of this MIS. The purpose of any MIS, as discussed in chapter I, is to meet the decision needs of the user. Thus the feasibility of this MIS should be based not only on the availability of the information, but also on the requirements of the manager to use the information in the effective management of his organization.

IV. Summary and Recommendations

Summary

In order for any manager to make informed decisions, he must have accurate and current information. The Chief of Supply is no exception. He must make decisions that affect the efficient and effective supply support of a variety of customers with a wide range of needs. In order to present the COS with the most current information in this period of advanced technology, some type of computer based information system is highly desirable. With the introduction of the Sperry 1100 series Phase IV computer system update, with its improved capabilities over the UNIVAC 1050-II, it is time to develop this system for the COS.

The objective of this study was to take the first step in the MIS development process by identifying the information needs of the COS. The objective was accomplished by answering three research questions:

1. What information does the Chief of Supply need to operate the supply system effectively?
2. Of the information needs determined in answering question one, how much is available in the Standard Base Supply System program as it exists on the Phase IV Computer System?
3. Is it feasible to proceed with the development of a MIS for the COS?

Chapter I established the basis for this research by providing definitions and reviewing the literature. In this chapter, the level and type of decisions were discussed in order to determine how information relates to decisions. Also, this chapter expounded on the specific problem and presents the research objectives.

Chapter II presented a detailed plan of how the research objectives were to be achieved. This included a discussion of the survey method to be used, a definition of the population to be surveyed, sample selection techniques and concluded with the data collection and analysis methods.

Chapter III was a presentation of the findings. In this chapter, the survey instrument development process was discussed at length. The discussion continued by presenting the method used to reduce the responses into usable data. These data were further analyzed by applying the decision rule developed to determine the significance of the individual information items. This resulted in 69 of the 110 proposed individual information items being considered significant. These 69 items were further examined to determine their availability in the SBSS, as it exists on the Sperry 1100 series Phase IV Computer System. Of the 69 items examined, 47 were found to be directly available in the SBSS program. Based on these facts, it was determined the MIS development process was feasible; however, the validity of the decision criteria was questionable.

Recommendations

This author recommends the MIS development project for the Chief of Supply be continued. In order to attain a usable system, the test and implement stage, as discussed by Ross, should be undertaken as soon as the details of the system can be developed. In order to continue the development process, it is necessary for the users to be involved by "hands on" experience with the MIS. Through this process, the designers can interface with the users in order to insure the information needs of the user are always met. To expedite this process, the individual displays described by Rhodey (12:Appendix B) should be used as a starting point.

This author also recommends this study serve as a basis for further development research. This report represents only the first step in the MIS development process. The results of this research do not show how the system should be structured to suit the individual needs of each COS, only those items of interest to all COS. The one underlying feeling the author received from talking with 30 different COS is the uniqueness of each supply account. For this reason, the structure of the system must allow each individual COS to emphasize or suppress a particular information item as he sees fit. This implies the structure should be capable of allowing the level of detail for each

item to be indicated by the COS. Also, the capability to allow each manager not to receive any information on a major area, if the area does not apply to his account, should be included in the MIS. This may represent a truly ideal system, but it also indicates how the system should function. One respondent identified the needs of the system quite well when he stated, "On a daily basis, most items (on the survey) aren't all that important. Only when things surface as problems, then information is needed."

In addition to the continued development process, this research indicated several items the COS feels he needs to manage his account which are not currently included in the SBSS program. It is recommended these items (see Appendix D) be examined by the experts at the Data Systems Design Center to determine if it is cost effective to include these items in the SBSS program.

Conclusion

In conclusion, this thesis research provides the supply community a consolidated list of the general items senior managers need to effectively and efficiently manage their individual accounts. It should be emphasized the individual information items listed in Appendices C and D are not, in any way, to be considered a complete listing. This list only provides a guide to the general information items needed for the management of any supply account and the

starting point for the development of a Management Information System.

Also, it would be a serious error to infer the items in the survey which were not determined to be significant by the data are any less important than those which were. For example, the duration items were awaiting parts - command intensive management items was not determined significant by the data. However, four respondents identified this item as extremely important to them. In fact, each of the forty-one items not determined significant by the data was identified as extremely important to at least one respondent.

The hope of some day having a MIS to fill the needs of every COS is truly optimistic. However, in order for senior supply managers to cope with the rapidly changing environment of today's Air Force, information is critical. It is far better to have access to a limited amount of accurate and timely information than no information at all.

Appendix A: Survey Instrument

INSTRUCTIONS

Attached is a list of information requirements that I have identified for inclusion in an improved Management Information System for the Chief of Supply. I am interested in your opinion of the value of each item in making decisions concerning the supply function. Please take a few minutes to read the following instructions before completing the questionnaire.

1. Read the attached list of information items.
2. Set this list aside for one to two days and go on with business as usual.
3. After the one to two day period has passed, reread the list and indicate if you feel the individual item would be beneficial to you in your decision making. Use the following scale to indicate the value to you.

1	2	3	4	5
no				extremely
value		valuable		valuable

4. Feel free to indicate any other areas of information you feel would aid a Chief of Supply in managing an account. It will be assumed that you consider these areas extremely valuable unless you indicate otherwise.
5. Please insure your responses are directed toward information needed and not how the information should be presented. Your comments on the presentation of the information are welcome; however, the primary purpose of this research is to determine the specific information you require in your position as Chief of Supply.

I will be contacting you by telephone in the next few days to collect your responses. I would like to take this opportunity to thank you for your assistance in this research project. With your help, perhaps a useful tool can be developed to aid in managing supply accounts.

A PROPOSED MIS FOR THE COS

1. Repair cycle time

1.1 Delinquent DIFM turn-in rate

1	2	3	4	5
no value		valuable		extremely valuable

1.1.1 Delinquent DIFM turn-in rate - Air Force Critical items

1	2	3	4	5
no value		valuable		extremely valuable

1.1.2 Delinquent DIFM turn-in rate - Command intensive management items (CIMI)

1	2	3	4	5
no value		valuable		extremely valuable

1.1.3 Delinquent DIFM turn-in rate - AF Critical items by major organization (eg. OMS, FMS, CE, Transportation, ect)

1	2	3	4	5
no value		valuable		extremely valuable

1.1.4 Delinquent DIFM turn-in rate - AF Critical items by each organization (each organizational code)

1	2	3	4	5
no value		valuable		extremely valuable

1.1.5 Delinquent DIFM turn-in rate - CIMI items by major organization (eg. OMS, FMS, CE, Transportation, ect)

1	2	3	4	5
no value		valuable		extremely valuable

1.1.6 Delinquent DIFM turn-in rate - CIMI items by each organization (each organizational code)

1	2	3	4	5
no value		valuable		extremely valuable

1.2 Delinquent DIFM turn-in rate - Non-Critical items

1	2	3	4	5
no value		valuable		extremely valuable

1.2.1 Delinquent DIFM turn-in rate - Non-Critical items by major organization

1	2	3	4	5
no value		valuable		extremely valuable

1.2.2 Delinquent DIFM turn-in rate - Non-Critical items by each organization

1	2	3	4	5
no value		valuable		extremely valuable

1.3 Total Awaiting Parts (AWP)

1	2	3	4	5
no value		valuable		extremely valuable

1.3.1 Total AWP - AF Critical Items

1	2	3	4	5
no value		valuable		extremely valuable

1.3.2 Total AWP - CIMI Items

1	2	3	4	5
no value		valuable		extremely valuable

1.3.3 Total AWP - AF Critical Items by major organization

1	2	3	4	5
no value		valuable		extremely valuable

1.3.4 Total AWP - AF Critical Items by each organization

1	2	3	4	5
no value		valuable		extremely valuable

1.3.5 Duration items AWP - AF Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.3.6 Total AWP - CIMI Items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.3.7 Total AWP - CIMI Items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.3.8 Duration items AWP - CIMI items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.3.9 Total AWP - Non-Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.3.10 Total AWP - Non-Critical items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.3.11 Total AWP - Non-Critical items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.3.12 Duration items AWP - Non-Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4 Total items Not Repairable This Station (NRTS)

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4.1 Total items NRTS by NRTS code

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4.2 Percent of items NRTS

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4.3 Percent of items NRTS by NRTS code

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4.4 Total items NRTS - AF Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4.5 Total items NRTS - CIMI items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4.6 Percent of items NRTS - AF Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.4.7 Percent of items NRTS - CIMI items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5 Average repair days

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.1 Average repair days - AF Critical Items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.2 Average repair days - CIMI Items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.3 Average repair days - AF Critical Items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.4 Average repair days - AF Critical Items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.5 Average repair days - CIMI Items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.6 Average repair days - CIMI Items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.7 Average repair days - Non-Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.8 Average repair days - Non-Critical items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.5.9 Average repair days - Non-Critical items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6 Average repair days to NRTS

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.1 Average repair days to NRTS - AF Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.2 Average repair days to NRTS - CIMI items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.3 Average repair days to NRTS - AF Critical items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.4 Average repair days to NRTS - AF Critical items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.5 Average repair days to NRTS - CIMI items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.6 Average repair days to NRTS - CIMI items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.7 Average repair days to NRTS - Non-Critical items

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.8 Average repair days to NRTS - Non-Critical items by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

1.6.9 Average repair days to NRTS - AF Critical items by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

2. Funds availability

2.1 Available balance for stock replenishment and Due-Outs

1	2	3	4	5
no				extremely
value		valuable		valuable

2.1.1 Available balance for stock replenishment and Due-outs by budget codes

1	2	3	4	5
no				extremely
value		valuable		valuable

2.1.2 Dollar value of sales for a given period

1	2	3	4	5
no				extremely
value		valuable		valuable

2.1.3 Dollar value of orders for a given period

1	2	3	4	5
no				extremely
value		valuable		valuable

2.1.4 Orders to sales ratio

1	2	3	4	5
no				extremely
value		valuable		valuable

3. Delinquent Documents

3.1 Number of delinquent documents

1	2	3	4	5
no				extremely
value		valuable		valuable

3.1.1 Number of delinquent documents by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

3.1.2 Number of delinquent documents by each organization

1	2	3	4	5
no value		valuable		extremely valuable

3.1.3 Percent of documents delinquent

1	2	3	4	5
no value		valuable		extremely valuable

3.1.4 Percent of documents delinquent by major organization

1	2	3	4	5
no value		valuable		extremely valuable

3.1.5 Percent of documents delinquent by each organization

1	2	3	4	5
no value		valuable		extremely valuable

3.1.6 Delinquent documents by number of days delinquent

1	2	3	4	5
no value		valuable		extremely valuable

4. MICAP

4.1 Total MICAP

1	2	3	4	5
no value		valuable		extremely valuable

4.1.1 Total MICAP by weapon system

1	2	3	4	5
no value		valuable		extremely valuable

4.1.2 Total MICAP by cause codes

1	2	3	4	5
no value		valuable		extremely valuable

4.1.3 Total MICAP by cause codes by weapon system

1	2	3	4	5
no				extremely
value		valuable		valuable

4.1.4 Range of days MICAP - all items

1	2	3	4	5
no				extremely
value		valuable		valuable

4.1.5 Range of days MICAP by weapon system

1	2	3	4	5
no				extremely
value		valuable		valuable

4.2 Number of MICAP deletions by deletion codes

1	2	3	4	5
no				extremely
value		valuable		valuable

4.2.1 Percent of MICAP deletions by deletion codes

1	2	3	4	5
no				extremely
value		valuable		valuable

4.2.2 Number of MICAP deletions by deletion code and weapon system

1	2	3	4	5
no				extremely
value		valuable		valuable

4.2.3 Percent of MICAP deletions by deletion code and weapon system

1	2	3	4	5
no				extremely
value		valuable		valuable

5. Priority Support

5.1 Percent of demands by delivery priority

1	2	3	4	5
no				extremely
value		valuable		valuable

5.1.1 Percent of demands by delivery priority by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

5.1.2 Percent of demands by delivery priority by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

5.2 Percent of demands by Urgency of Need Designator (UND)

1	2	3	4	5
no				extremely
value		valuable		valuable

5.2.1 Percent of demands by UND by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

5.2.2 Percent of demands by UND by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

5.3 Percent of requisitions by priority / priority group

1	2	3	4	5
no				extremely
value		valuable		valuable

5.3.1 Percent of requisitions by priority - each Depot

1	2	3	4	5
no				extremely
value		valuable		valuable

5.3.2 Percent of requisitions by priority - local purchase

1	2	3	4	5
no				extremely
value		valuable		valuable

5.3.3 Percent of timely support by source of supply

1	2	3	4	5
no				extremely
value		valuable		valuable

6. Warehouse refusal

6.1 Number of warehouse refusals

1	2	3	4	5
no				extremely
value		valuable		valuable

6.1.1 Warehouse refusal rate

1	2	3	4	5
no				extremely
value		valuable		valuable

7. Items past due inventory

7.1 Number of items past due inventory

1	2	3	4	5
no				extremely
value		valuable		valuable

7.1.1 Percent of items past due inventory

1	2	3	4	5
no				extremely
value		valuable		valuable

7.1.2 Number of items past due inventory by warehouse

1	2	3	4	5
no				extremely
value		valuable		valuable

7.1.3 Percent of items past due inventory by warehouse

1	2	3	4	5
no				extremely
value		valuable		valuable

8. Late deliveries

8.1 Late deliveries by organization

1	2	3	4	5
no				extremely
value		valuable		valuable

8.2 Late deliveries by delivery priority

1	2	3	4	5
no				extremely
value		valuable		valuable

8.2.1 Mean (average) time of deliveries by delivery priority

1	2	3	4	5
no				extremely
value		valuable		valuable

8.2.2 Median (equal number above and below) time of deliveries by delivery priority

1	2	3	4	5
no				extremely
value		valuable		valuable

8.2.3 Modal (most frequent) time of deliveries by delivery priority

1	2	3	4	5
no				extremely
value		valuable		valuable

9. Fill rates

9.1 Bench stock fill rate

1	2	3	4	5
no				extremely
value		valuable		valuable

9.1.1 Bench stock fill rate by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

9.1.2 Bench stock fill rate by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

9.2 Individual equipment issue fill rate

1	2	3	4	5
no				extremely
value		valuable		valuable

9.2.1 Tool issue fill rate

1	2	3	4	5
no				extremely
value		valuable		valuable

9.2.2 Base Service Store fill rate

1	2	3	4	5
no				extremely
value		valuable		valuable

9.3 War Reserve Materials (if not applicable leave blank)

1	2	3	4	5
no				extremely
value		valuable		valuable

9.3.1 War reserve materials fill rates

1	2	3	4	5
no				extremely
value		valuable		valuable

9.3.2 War reserve materials fill rates by weapon system

1	2	3	4	5
no				extremely
value		valuable		valuable

10. Fuels

10.1 Percent of fuel lost in a given period

1	2	3	4	5
no				extremely
value		valuable		valuable

10.2 War Reserve Storage inventory

1	2	3	4	5
no				extremely
value		valuable		valuable

10.3 Total number of servicings for a given period

1	2	3	4	5
no				extremely
value		valuable		valuable

11. Issue Effectiveness

11.1 Total Issue effectiveness

1	2	3	4	5
no				extremely
value		valuable		valuable

11.1.1 Issue effectiveness by major organization

1	2	3	4	5
no				extremely
value		valuable		valuable

11.1.2 Issue effectiveness by each organization

1	2	3	4	5
no				extremely
value		valuable		valuable

12. Stockage Effectiveness

12.1 Overall stockage effectiveness

1	2	3	4	5
no				extremely
value		valuable		valuable

Additional Areas:

Appendix B: Survey Responses

1.1	2 4 5 2 3 4 4 5 2 5 5 5 3 4 2 2 4 2 3 5 5 5 5 3 3 4 5 4 3 4
1.1.1	2 3 5 2 4 3 4 5 3 3 5 5 2 4 2 2 3 2 3 3 1 3 1 3 3 5 5 4 3 4
1.1.2	2 2 5 2 3 2 4 5 3 3 5 5 2 3 2 2 3 2 3 3 1 3 1 3 3 5 5 3 3 4
1.1.3	2 2 5 2 2 2 2 3 3 4 5 1 2 3 2 2 3 1 3 3 1 3 1 4 3 4 4 5 5 1
1.1.4	2 4 5 2 1 2 2 3 3 4 5 1 2 3 2 2 2 1 2 3 1 3 1 2 2 5 3 5 5 1
1.1.5	2 2 5 2 1 2 2 3 3 3 5 1 2 3 2 2 4 1 2 1 1 3 1 4 3 5 4 5 5 1
1.1.6	2 4 5 2 1 2 2 3 3 4 5 1 2 3 2 2 3 1 2 4 1 3 1 2 2 5 3 3 5 1
1.2	2 2 5 2 1 2 3 5 2 3 5 3 2 4 2 2 3 2 3 3 1 3 1 3 3 4 3 4 5 4
1.2.1	2 2 5 - 1 2 2 5 2 3 5 1 2 4 2 2 2 1 3 3 1 5 1 3 3 4 3 4 5 1
1.2.2	2 4 5 5 1 2 2 3 2 3 5 1 2 3 2 2 2 1 2 2 1 3 1 2 2 4 2 4 5 1
1.3	2 3 4 5 3 3 4 5 3 5 5 5 3 4 2 2 3 5 3 2 5 5 5 3 4 4 4 3 1 4
1.3.1	2 3 5 5 4 3 4 5 3 5 3 5 2 5 2 2 2 1 3 2 1 3 1 3 3 5 4 4 1 4
1.3.2	2 3 5 1 3 2 4 4 3 4 3 5 2 3 2 2 2 4 3 2 1 3 1 3 3 5 4 3 1 4
1.3.3	2 2 5 1 1 2 2 4 3 3 3 1 2 3 2 2 2 5 3 2 1 3 1 2 3 5 4 4 5 3
1.3.4	2 2 5 5 1 2 2 4 3 5 3 1 2 3 2 2 3 2 2 2 1 3 1 2 2 5 3 5 5 3
1.3.5	2 2 4 - 1 2 4 4 3 4 5 3 3 4 2 2 3 4 3 2 1 3 1 3 3 5 5 3 5 4
1.3.6	2 2 4 - 1 2 2 4 3 3 3 1 2 3 2 2 2 4 3 2 1 3 1 2 3 4 3 3 5 2
1.3.7	2 2 4 - 1 2 2 3 2 4 3 1 2 3 2 2 3 2 2 2 1 3 1 2 2 4 3 3 5 2
1.3.8	2 2 4 - 3 2 4 4 2 4 5 3 3 3 2 2 2 2 3 2 1 3 1 3 3 5 5 3 1 4
1.3.9	2 3 3 - 1 3 3 3 2 4 3 5 2 4 2 2 2 4 3 2 1 3 1 3 3 4 3 3 1 4
1.3.10	2 2 3 - 1 2 2 3 2 3 3 1 2 4 2 2 2 4 3 2 1 3 1 2 3 4 3 3 5 1
1.3.11	2 2 3 - 1 2 2 3 2 3 3 1 2 3 2 2 2 2 2 3 1 3 1 2 2 4 2 3 5 1

1.3.12 2 2 3 - 2 2 2 4 2 3 5 3 3 3 2 2 2 4 3 3 1 5 1 3 3 4 3 3 1 4
 1.4 2 3 1 2 3 2 3 3 3 3 5 5 3 3 2 1 4 1 3 4 5 5 5 3 3 4 4 5 1 3
 1.4.1 2 4 1 5 1 2 3 5 3 3 5 3 3 3 2 1 4 1 3 4 5 3 1 3 3 4 4 5 3 2
 1.4.2 2 2 1 - 2 3 3 3 2 4 5 3 2 3 2 1 2 3 3 5 4 3 1 3 2 3 3 5 1 3
 1.4.3 2 3 1 5 1 2 3 3 3 4 5 1 2 3 2 1 2 1 3 3 1 3 1 3 2 3 3 5 3 2
 1.4.4 2 2 1 5 3 2 3 5 3 4 5 3 2 3 2 1 3 1 3 3 1 4 1 3 3 5 4 5 1 3
 1.4.5 2 2 1 5 3 2 3 4 3 4 5 3 2 3 2 1 3 1 3 3 1 3 1 3 3 5 4 5 1 3
 1.4.6 2 2 1 - 2 2 3 5 3 4 5 3 2 3 2 1 2 1 3 3 1 3 1 3 2 5 3 5 1 3
 1.4.7 2 2 1 - 2 2 3 3 3 4 5 3 2 3 2 1 2 1 3 3 1 3 1 3 2 5 3 5 1 3
 1.5 2 3 2 5 3 4 4 5 3 3 5 5 3 5 2 2 4 5 3 5 5 5 1 3 3 3 5 5 3 4
 1.5.1 2 2 2 5 3 4 4 5 3 3 3 3 3 5 2 2 4 5 3 5 1 3 1 3 3 5 5 5 3 4
 1.5.2 2 2 2 5 3 4 4 4 2 3 3 3 3 3 2 2 3 3 3 5 1 3 1 3 3 5 5 5 3 4
 1.5.3 2 2 2 5 1 4 2 3 2 3 3 1 2 3 2 2 2 5 3 3 1 3 1 2 3 5 4 5 5 1
 1.5.4 2 2 2 5 1 4 2 4 3 3 3 1 2 3 2 2 3 3 2 3 1 3 1 2 2 5 2 5 5 1
 1.5.5 2 2 2 5 1 4 2 3 2 3 3 1 2 3 2 2 2 2 3 3 1 3 1 2 3 5 4 5 5 1
 1.5.6 2 2 2 5 1 4 2 3 3 3 3 1 2 3 2 2 3 2 2 3 1 3 1 2 2 5 2 5 5 1
 1.5.7 2 2 2 5 1 3 2 4 2 3 3 5 3 3 2 2 2 3 2 3 1 3 1 3 3 4 2 5 3 4
 1.5.8 2 2 2 5 1 3 2 3 2 2 3 1 2 3 2 2 2 3 2 3 1 3 1 2 3 4 2 5 5 1
 1.5.9 2 2 2 5 1 3 2 3 2 3 3 1 2 3 2 2 2 2 2 3 1 3 1 2 2 4 2 5 5 1
 1.6 2 1 2 5 2 4 2 5 3 3 3 5 3 3 2 2 2 5 3 3 1 5 1 3 3 3 3 5 1 4
 1.6.1 2 1 2 5 2 4 4 5 3 3 3 1 2 3 2 2 3 5 2 3 1 3 1 3 3 4 3 5 1 4
 1.6.2 2 1 2 5 2 4 4 5 3 2 3 1 2 3 2 2 3 4 2 3 1 3 1 3 3 4 3 5 1 4
 1.6.3 2 1 2 5 1 3 2 5 3 2 3 1 2 3 2 2 3 3 2 3 1 3 1 2 3 4 3 5 5 1
 1.6.4 2 1 2 5 1 3 2 5 3 2 3 1 2 3 2 2 3 1 2 3 1 3 1 2 2 4 2 5 5 1
 1.6.5 2 1 2 5 1 3 2 5 3 2 3 1 2 3 2 2 2 1 2 3 1 3 1 2 3 4 3 5 5 1
 1.6.6 2 1 2 5 1 2 2 3 3 2 3 1 2 3 2 2 2 1 2 3 1 3 1 2 2 4 2 5 5 1
 1.6.7 2 1 2 5 1 3 2 5 2 2 3 3 2 3 2 2 2 3 2 3 1 3 1 3 3 3 2 5 1 4

1.6.8 2 1 2 5 1 2 2 3 2 2 3 1 2 3 2 2 2 3 2 3 1 3 1 2 3 3 2 5 5 1
 1.6.9 2 1 2 5 1 2 2 3 3 2 3 1 2 3 2 2 3 1 2 3 1 3 1 2 2 4 2 5 5 1
 2.1 4 2 2 5 4 5 4 5 2 5 3 5 2 3 2 5 3 5 5 3 4 5 5 2 5 4 5 5 3 4
 2.1.1 4 2 2 - 4 3 4 5 2 5 5 5 3 3 2 5 3 5 5 5 4 5 5 2 3 4 4 5 3 4
 2.1.2 4 3 2 - 3 2 4 3 2 4 5 5 2 3 2 3 3 5 5 5 4 5 5 2 5 5 4 5 1 4
 2.1.3 4 3 2 5 3 3 4 3 2 4 5 5 3 4 2 3 3 5 5 5 4 5 1 2 5 5 4 5 1 4
 2.1.4 4 4 3 5 3 4 4 5 3 3 5 5 3 4 2 4 3 5 5 4 4 5 5 2 5 4 4 5 1 5
 3.1 5 5 5 5 3 5 5 5 2 5 5 5 5 4 2 4 4 5 5 5 5 5 5 3 5 5 5 5 5 4
 3.1.1 5 4 1 5 1 1 1 3 2 3 4 1 5 2 2 5 3 1 4 5 1 4 1 2 3 1 4 5 5 4
 3.1.2 5 2 1 5 1 1 1 2 2 3 4 1 5 2 2 5 4 1 4 1 1 4 1 2 5 1 2 5 5 4
 3.1.3 5 3 5 5 1 4 2 2 3 4 5 5 3 3 2 1 3 1 3 1 1 5 1 2 2 3 3 5 1 5
 3.1.4 5 1 1 5 1 1 1 2 2 3 4 1 3 2 2 1 3 1 3 1 1 3 1 2 2 3 1 5 1 4
 3.1.5 5 1 1 5 1 1 1 2 2 3 4 1 3 2 2 1 4 1 3 5 1 3 1 2 2 2 1 5 1 4
 3.1.6 5 1 5 5 1 4 4 4 2 4 5 5 4 2 2 1 3 2 4 5 5 5 1 2 4 5 5 5 1 4
 4.1 1 3 5 5 4 5 5 5 4 5 3 5 2 5 2 2 4 5 5 5 5 5 5 1 5 5 1 5 5 5
 4.1.1 1 3 5 5 4 5 5 5 4 5 5 5 4 5 2 2 4 5 5 5 5 5 5 3 5 5 4 5 5 5
 4.1.2 1 3 5 5 3 2 5 5 3 5 3 5 2 5 2 4 3 3 5 4 5 4 1 3 4 4 1 5 2 4
 4.1.3 1 1 5 5 3 2 5 4 3 5 5 3 4 5 2 3 4 3 5 4 5 4 1 3 5 3 4 5 2 4
 4.1.4 1 1 5 5 1 4 4 4 3 4 3 3 2 5 2 3 2 3 3 4 1 5 1 3 4 3 1 5 4 3
 4.1.5 1 1 5 5 1 4 4 4 2 4 5 1 2 5 2 2 2 3 3 4 1 4 1 3 3 3 4 5 4 3
 4.2 1 1 3 5 3 3 5 5 3 4 4 5 4 4 2 3 3 3 5 4 5 4 1 3 5 4 4 5 2 4
 4.2.1 1 1 3 5 1 3 3 3 3 4 4 5 4 4 2 2 2 2 3 4 5 4 1 3 2 4 1 5 2 4
 4.2.2 1 1 3 5 1 3 3 4 3 4 5 5 4 4 2 2 4 3 5 5 5 4 1 3 5 4 4 5 2 3
 4.2.3 1 1 3 5 1 3 3 3 3 4 5 5 3 4 2 2 2 2 3 5 4 4 1 3 2 4 4 5 1 3
 5.1 5 1 5 5 4 3 5 5 4 3 5 5 4 3 2 3 3 3 5 3 4 4 5 3 3 4 4 4 5 4
 5.1.1 5 1 5 5 4 3 5 5 4 3 5 5 4 3 2 3 3 3 5 3 4 4 5 3 3 4 4 4 5 4
 5.1.2 5 1 5 5 4 4 5 5 4 3 5 5 4 3 2 4 3 2 3 3 4 3 5 2 3 4 4 4 5 4

5.2 5 1 5 5 3 4 4 5 3 3 5 5 4 3 2 3 2 1 2 3 3 3 5 2 4 2 5 5 5 4
 5.2.1 5 3 5 5 3 4 5 5 2 4 5 5 2 3 2 4 3 2 4 3 5 3 1 3 4 4 4 4 5 4
 5.2.2 5 3 5 5 3 4 5 5 2 3 5 5 4 3 2 4 2 2 3 3 5 5 1 2 3 4 4 5 5 4
 5.3 5 2 5 5 3 5 4 5 2 3 5 3 3 3 2 5 3 1 3 3 1 4 1 2 5 2 5 5 5 4
 5.3.1 5 4 5 5 3 5 4 5 3 4 5 5 3 3 2 4 3 3 3 4 5 4 5 3 3 3 4 4 5 4
 5.3.2 5 2 5 1 2 4 4 4 2 3 5 1 3 3 2 2 2 1 3 4 3 3 1 2 3 2 4 4 1 4
 5.3.3 5 1 5 5 2 4 4 4 3 5 5 3 3 3 2 2 3 3 4 4 5 3 5 3 3 3 4 5 5 4
 6.1 5 2 5 5 3 5 4 5 3 4 5 3 4 3 2 4 4 5 3 5 4 3 5 3 2 3 4 3 5 4
 6.1.1 5 3 5 5 3 5 5 5 3 5 5 5 4 5 2 2 4 4 5 5 5 5 5 3 5 4 5 4 5 5
 7.1 5 3 5 5 1 5 5 5 3 5 5 5 4 5 2 2 2 4 4 5 5 5 1 2 2 4 3 5 3 5
 7.1.1 5 1 3 5 3 3 5 5 2 5 5 5 4 3 2 2 4 5 5 5 5 5 1 3 5 4 3 5 5 5
 7.1.2 5 1 3 5 1 3 5 3 2 5 5 3 3 3 2 1 2 1 4 5 3 5 1 2 2 4 3 5 3 5
 7.1.3 5 1 3 5 1 2 4 5 2 5 5 1 3 3 2 1 4 3 4 3 1 5 1 2 3 4 3 5 2 4
 8.1 5 1 3 5 1 2 4 3 2 4 5 1 2 3 2 1 2 1 4 3 1 5 1 2 2 4 3 5 2 4
 8.2 5 1 5 5 3 5 3 4 4 4 5 5 4 3 2 3 4 2 3 4 5 3 5 3 5 4 5 4 5 3
 8.2.1 5 1 5 5 2 5 5 5 3 3 5 5 4 2 2 3 4 4 3 4 5 3 5 2 5 5 5 4 5 5
 8.2.2 5 1 4 5 3 5 4 3 3 3 5 3 3 2 2 1 2 3 2 3 1 3 1 2 3 3 4 3 1 4
 8.2.3 5 1 4 - 2 4 1 2 3 3 5 4 2 2 2 1 2 3 2 4 1 3 1 2 2 2 3 3 1 4
 9.1 5 1 4 - 2 5 1 2 3 3 5 5 4 2 2 1 2 3 2 4 1 3 1 2 3 2 3 3 1 2
 9.1.1 5 5 4 5 3 5 5 5 3 5 5 5 4 5 2 5 4 5 5 5 5 5 5 3 5 5 3 5 5 5
 9.1.2 5 2 4 5 3 5 5 5 3 4 5 1 4 5 2 5 3 5 5 5 5 5 1 2 3 5 3 5 5 3
 9.2 5 2 4 5 3 5 4 4 3 4 5 1 4 4 2 5 4 2 3 4 5 4 1 2 5 3 3 5 5 3
 9.2.1 5 1 4 5 2 4 3 5 2 3 5 3 4 4 2 3 4 3 3 4 5 3 5 3 3 5 3 3 5 4
 9.2.2 5 1 4 5 2 4 3 5 2 3 5 3 4 4 2 3 4 3 3 3 5 3 5 3 3 5 3 3 5 4
 9.3 5 1 4 5 2 4 3 5 2 3 5 3 4 4 2 3 4 3 3 3 5 3 5 3 3 5 3 3 5 4
 9.3 1 3 4 5 - 4 - 5 3 4 5 5 3 4 2 - 4 - - 5 5 5 5 3 - 5 - 4 5 5
 9.3.1 1 2 4 5 3 5 - 4 3 4 5 5 3 5 2 - 4 5 - 5 5 5 1 3 - 5 3 4 5 5

9.3.2 1 1 4 5 3 4 - 4 3 4 5 3 3 5 2 - 4 5 - 5 1 5 1 2 - 5 1 5 5 5
 10.1 4 1 3 5 3 4 5 5 2 4 5 5 3 5 2 3 4 3 4 5 4 5 5 2 3 4 5 4 1 5
 10.2 1 3 3 5 - 4 5 5 3 4 5 5 2 5 2 - 3 5 3 5 5 5 5 3 3 5 5 4 3 5
 10.3 3 3 3 5 3 5 5 5 2 4 5 3 4 5 2 1 4 4 3 5 3 5 1 2 5 4 3 4 1 4
 11.1 5 3 5 - 3 5 5 5 2 5 5 5 4 5 2 5 4 5 5 5 3 5 5 3 5 5 3 2 5 5
 11.1.1 5 1 3 1 3 4 5 5 2 4 5 3 4 5 2 4 3 3 5 5 1 5 1 2 3 5 1 2 5 3
 11.1.2 5 1 3 1 1 4 4 4 2 4 5 3 4 5 2 5 4 2 3 5 3 5 1 2 5 3 4 2 5 4
 12.1 5 4 5 5 3 5 5 5 4 5 5 5 4 5 2 5 4 5 5 5 5 5 5 3 5 5 4 4 5 5

Appendix C: Significant Information Items

note: * indicates item available in the SBSS program

- * 1.1 Delinquent DIFM turn-in rate
 - * 1.1.1 Delinquent DIFM turn-in rate - Air Force Critical items
 - * 1.1.2 Delinquent DIFM turn-in rate - Command intensive management items (CIMI)
- * 1.2 Delinquent DIFM turn-in rate - Non-Critical items
- * 1.3 Total Awaiting Parts (AWP)
 - * 1.3.1 Total AWP - AF Critical Items
 - * 1.3.2 Total AWP - CIMI Items
 - * 1.3.5 Duration items AWP - AF Critical items
 - * 1.3.9 Total AWP - Non-Critical items
- * 1.4 Total items Not Repairable This Station (NRTS)
 - * 1.4.1 Total items NRTS by NRTS code
 - * 1.4.4 Total items NRTS - AF Critical items
 - * 1.4.5 Total items NRTS - CIMI items
- * 1.5 Average repair days
 - * 1.5.1 Average repair days - AF Critical Items
 - * 1.5.2 Average repair days - CIMI Items
- * 1.6 Average repair days to NRTS
 - * 1.6.1 Average repair days to NRTS - AF Critical items
- * 2.1 Available balance for stock replenishment and Due-Outs
 - * 2.1.1 Available balance for stock replenishment and Due-outs by budget codes
 - 2.1.2 Dollar value of sales for a given period

- 2.1.3 Dollar value of orders for a given period
- 2.1.4 Orders to sales ratio
- 3.1 Number of delinquent documents
 - 3.1.3 Percent of documents delinquent
 - 3.1.6 Delinquent documents by number of days delinquent
- * 4.1 Total MICAP
 - * 4.1.1 Total MICAP by weapon system
 - * 4.1.2 Total MICAP by cause codes
 - * 4.1.3 Total MICAP by cause codes by weapon system
 - * 4.1.4 Range of days MICAP - all items
 - * 4.1.5 Range of days MICAP by weapon system
- * 4.2 Number of MICAP deletions by deletion codes
 - * 4.2.1 Percent of MICAP deletions by deletion codes
 - * 4.2.2 Number of MICAP deletions by deletion code and weapon system
 - * 4.2.3 Percent of MICAP deletions by deletion code and weapon system
- 5.1 Percent of demands by delivery priority
 - 5.1.1 Percent of demands by delivery priority by major organization
 - 5.1.2 Percent of demands by delivery priority by each organization
- * 5.2 Percent of demands by Urgency of Need Designator (UND)
 - * 5.2.1 Percent of demands by UND by major organization
 - * 5.2.2 Percent of demands by UND by each organization
- * 5.3 Percent of requisitions by priority / priority group
 - * 5.3.2 Percent of requisitions by priority - local purchase

- 5.3.3 Percent of timely support by source of supply
- * 6.1 Number of warehouse refusals
 - * 6.1.1 Warehouse refusal rate
- * 7.1 Number of items past due inventory
 - * 7.1.1 Percent of items past due inventory
 - * 7.1.2 Number of items past due inventory by warehouse
- 8.1 Late deliveries by organization
- 8.2 Late deliveries by delivery priority
 - 8.2.1 Mean (average) time of deliveries by delivery priority
- * 9.1 Bench stock fill rate
 - * 9.1.1 Bench stock fill rate by major organization
 - 9.1.2 Bench stock fill rate by each organization
- 9.2 Individual equipment issue fill rate
 - 9.2.1 Tool issue fill rate
 - 9.2.2 Base Service Store fill rate
- * 9.3 War Reserve Materials
 - 9.3.1 War reserve materials fill rates
 - 9.3.2 War reserve materials fill rates by weapon system
- 10.1 Percent of fuel lost in a given period
- 10.2 War Reserve Storage inventory
- 10.3 Total number of servicings for a given period
- * 11.1 Total Issue effectiveness
 - * 11.1.1 Issue effectiveness by major organization
 - * 11.1.2 Issue effectiveness by each organization
- * 12.1 Overall stockage effectiveness

Appendix D: Additional Information Items Desired

Note: + indicates identified more than once

- + 1. Delinquent documents by Transaction Identification Code (TRIC) and Deletion Identification Code (DIC).
- 2. Delinquent rejects by days delinquent.
- 3. Delinquents over seven days old.
- + 4. Delinquent rejects by remote number
- + 5. Receipts by receiving area
- 6. Number of requests being processed by the SBSS.
- + 7. Number of computer generated follow-ups.
- + 8. Number of computer relelevelings
- + 9. Number of receipts processed on time.
- 10. Stockage effectiveness by major organization.
- 11. Rejects greater than six days old by responsible activity.
- 12. Number of reverse post transactions.
- 13. Exceptions that require manual intervention.
- 14. Amount of time each remote is used for inquiries.
- 15. Items records frozen more than three days.
- 16. Number of elective post posts.
- 17. "P" and "L" numbers as a percentage of total item records.
- 18. Total number of mobility bags required to be stored by supply compared to the number of bags available.
- 19. Items missing from incomplete mobility bags.
- 20. Delinquent allowance source code 000.
- 21. WRSK fill rates by organization shop code.

- 22. Customer complaints by reason for complaint.
- 23. Inventory accuracy by warehouse.
- 24. Stockage fill rates stratified by Stockage Priority Codes.
- 25. Rejects listed by type.
- 26. Number and cause for fuel delays.
- 27. Number of servicings by hydrant versus R-9.
- 28. Items with less than full stock with no due-in.
- 29. Projected "go broke" date by major organization.
- 30. Manpower authorized versus on-hand by division.
- + 31. Personnel information including disciplinary action, weight control, gains and losses.

Bibliography

1. Anthony, Robert N. Planning and Control Systems: A Framework for Analysis. Boston: Harvard Business School, 1965.
2. Babbie, Earl R. Survey Research Methods. Belmont CA: Wadsworth Publishing Company, Inc., 1973.
3. Blazer, Maj Douglas J., Chief of Supply Operations. Personal interview. USAF Logistics Management Center, Gunter AFS AL. 27 November 1984.
4. Emory, C. William. Research Methods. Rev. ed. Homewood IL: Richard D. Irwin, Inc., 1980.
5. Gerhard, Lt Cdr John Charles, III. Requirements Analysis of Effective Management Information System Design: A Framework and Case Study, MS Thesis. Naval Postgraduate School, Monterey CA, December 1981 (AD-A112 350).
6. Gorry, G.A. and Scott-Morton, M.S., "A Framework for Management Information Systems," Sloan Management Review, 13: 55-70 (Fall 1971).
7. Greer, Capt James A. and Capt Ivry Moon, Jr. Analysis and Use of Air Force Base Level Supply Management Indicators. MS Thesis, LSSR 18-81. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, June 1981 (AD-A103 253).
8. Hawley, Capt Lynn A., Supply Officer Resource Manager. Telephone interview. USAF Manpower and Personnel Center, Randolph AFB TX. 5 March 1985.
9. HQ AFSC. "User Friendly data systems: Project Harvest Resource Initiative." Electronic Message. 141302Z. Jan 85.
10. Morgan, Capt David E. and Maj George H. Stilwell. Information Needs and System Specifications for the B-1B Executive Information System. MS Thesis, LSSR 36-83. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1983 (AD-A134 424).
11. O'Brien, James J. Management Information Systems: Concepts, Techniques and Applications. New York: Van Nostrand Reinhold Company, 1970.

12. Rhodey, Maj Karen S. An Improved Management Information System for Chiefs of Supply. AFLMC Report 840112. Air Force Logistics Management Center, Gunter AFS AL, July 1984.
13. Ross, Joel E. Modern Management and Information Systems. Reston VA: Reston Publishing Company, Inc., 1976.
14. Wreksomindojo, Maj E. Sudaryanto. An Approach to the Design of a Management Information System: Development Procedure for the Indonesian Defense Logistics Staff. MS Thesis, LSSR 61-83. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1983 (AD-A134 974).

VITA

Major James K. Stevens, Jr. was born on 11 March 1949 in St. Louis, Missouri. He graduated from high school in Affton, Missouri, in 1967 and attended the University of Missouri, Columbia from which he received the degree of Bachelor of Science in Forest Products Utilization in December 1971. Upon graduation, he received a commission in the USAF through the ROTC program. He was called to active duty in April 1972. He completed pilot training and received his wings in March 1973. He then served as a KC-135 co-pilot and aircraft commander in the 917th Air Refueling Squadron, Dyess AFB, Texas, as an aircraft commander, instructor pilot and evaluator pilot in the 407th Air Refueling Squadron, Loring AFB, Maine, and as a C-135 and C-18 instructor research pilot in the 4950th Test Wing, Wright-Patterson AFB, Ohio, until entering the School of Systems and Logistics, Air Force Institute of Technology, in May 1984.

Permanent address: 6407 Raywood

Affton, Missouri 63123

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

AD-A161714

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) AFIT/GLM/LSM/85S-74			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION School of Systems and Logistics		6b. OFFICE SYMBOL (If applicable) AFIT/LSM	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State and ZIP Code) Air Force Institute of Technology Wright-Patterson AFB, Ohio 45433			7b. ADDRESS (City, State and ZIP Code)		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Air Force Log- istics Management Center		8b. OFFICE SYMBOL (If applicable) AFLMC/LGS	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State and ZIP Code) Gunter AFS, Al 36114			10. SOURCE OF FUNDING NOS.		
11. TITLE (Include Security Classification) See Box 19			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
12. PERSONAL AUTHOR(S) James K. Stevens, Jr., B.S., Major USAF			WORK UNIT NO.		
13a. TYPE OF REPORT MS Thesis		13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Yr., Mo., Day) September 1985		15. PAGE COUNT 75
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB. GR.	Management Information System, Information Systems Decision Making, Logistics Support		
05	08				
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
Title: DEVELOPING A MANAGEMENT INFORMATION FOR THE CHIEF OF SUPPLY					
Thesis Chairman: Mr. Patrick M. Bresnahan Assistant Professor of Logistics Management					
<p>Approved for public release: LAW AFB 180-1/</p> <p><i>Lynn E. Wolaver</i> 11 Sept 85</p> <p>LYNN E. WOLAVER Dean for Research and Professional Development Air Force Institute of Technology (AFIT) Wright-Patterson AFB OH 45433</p>					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS <input type="checkbox"/>			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED		
22a. NAME OF RESPONSIBLE INDIVIDUAL Mr. Patrick M. Bresnahan		22b. TELEPHONE NUMBER (Include Area Code) 513-255-5023		22c. OFFICE SYMBOL AFIT/LSM	

This study examined the information needs of the Chief of Supply in order to facilitate the development of a Management Information System (MIS) designed to meet his decision needs. It focused on the general information items needed to assist in the effective and efficient operation of a supply account. To accomplish this, thirty structured telephone interviews were conducted to collect opinions on a proposed MIS developed by the author.

The interview results identified sixty-nine information items which the respondents indicated as valuable. Of these, forty-seven were found to be immediately available in the Standard Base Supply System (SBSS) program as it exists on the Phase IV Sperry 1100 series computer system. With a majority of the information items found to be available within the SBSS program, it was determined feasible to continue the development of this Management Information System.

The results of this study led to two recommendations. The first was to immediately implement a Management Information System for the Chief of Supply based on the information contained in this report. The second was to use this study as the basis for further research to develop a MIS where the structure could be tailored to meet the individual needs of each Chief of Supply.

Report: Decision making, Logistics Support.

END

FILMED

1-86

DTIC